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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,157

01/19/2006

Wittich Kaule

2732-173

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09/02/2010

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WASHINGTON, DC 20005

EXAMINER

CHWASZ, JADE R

ART UNIT

PAPER NUMBER

2872

NOTIFICATION DATE

DELIVERY MODE

09/02/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,157	<b>Applicant(s)</b> KAULE ET AL.	
	<b>Examiner</b> JADE R. CHWASZ	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2010, 16 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-12,39,48,59,62,63 and 76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-12,39,48,59,62,63 and 76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. In view of the Appeal Brief filed on JUNE 15, 2010, PROSECUTION IS HEREBY REOPENED and the finality of the previous office action is withdrawn. A final rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Stephone B. Allen/  
Supervisory Patent Examiner, Art Unit 2872

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: the limitation “the specific viewing conditions” in line 9 does not have proper antecedent basis and it is unclear as to which viewing conditions are being claimed. For purposes of examination

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the limitation will be interpreted to mean “the specific viewing conditions of the diffractive image.” Claims 2-5, 59 and 76 are dependent on claim 1 and inherit at least the same deficiencies as claim 1. Appropriate correction is required.

3. Claim 3 is objected to because of the following informalities: Claim 3 recites the limitation "the first reflection layer" in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

4. Claim 4 is objected to because of the following informalities: Claim 4 recites the limitation "the first reflection layer" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claims 5 and 59 are dependent on claim 4 and inherit at least the same deficiencies as claim 4. Appropriate correction is required.

5. Claim 9 is objected to because of the following informalities: the limitation “the specific viewing conditions of the diffractive image” in line 7 does not have proper antecedent basis. Claims 10-12 and 62-63 are dependent on claim 9 and inherit at least the same deficiencies as claim 9. Appropriate correction is required

6. Claim 10 is objected to because of the following informalities: Claim 10 recites the limitation "the first reflection layer" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. Claims 11 and 62-63 are dependent on claim 10 and inherit at least the same deficiencies as claim 10. Appropriate correction is required.

7. Claim 39 is objected to because of the following informalities: the limitation “the specific viewing conditions of the diffractive image” in line 10 does not have proper antecedent basis. Appropriate correction is required

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8. Claim 48 is objected to because of the following informalities: the limitation "the specific viewing conditions of the diffractive image" in line 9 does not have proper antecedent basis. Appropriate correction is required.

9. Claim 76 is objected to because of the following informalities: Claim 76 recites the limitation "the specific viewing conditions of the diffractive image" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claims 5 and 59 are dependent on claim 4 and inherit at least the same deficiencies as claim 4. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-2, 9, 12, 39, 48 and 76, as best understood, as being unpatentable over Schmitz et al. (6,491,324) in view of Menz et al. (6,876,472).

Consider claims 1 and 76, Schmitz et al. disclose (e.g. figure 8) a security element, which has at least one area with a diffraction structure (13, lacquer layer) embossed during an embossing process with an embossing die, which under specific viewing conditions reconstructs a diffractive image (a diffractive image is reconstructed in transmitted light), wherein the area has subareas (10, gaps) being free of any diffraction structures (i.e. the gap areas do not include any diffraction structure), the subareas do not take part in the reconstruction of the diffractive image (the subareas do

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not take part in the reconstruction of the diffractive image since they do not include a diffraction structure), and represent a recognizable information (the subareas can represent characters or patterns), the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties under viewing conditions (under reflective viewing conditions the subarea and diffraction structure have similar reflecting properties due to the reflective layer 14), so that the recognizable information represented by the subareas is recognizable substantially only under the specific viewing conditions of the diffractive image (i.e. the information contained in the gap areas is viewable only under transmitted light) and wherein at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one of the subareas being free of any diffraction structure (the embossed layer can be formed separately or directly onto the surface of the carrier) [col. 6, line 10 to col. 7, line 9, col. 8, lines 7-44].

The preceding claim is a product-by-process claim and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production (i.e. being produced during an embossing process with an embossing die). If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process; see **In re Thorpe**, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

However, Schmitz et al. do not explicitly disclose that the viewing conditions under which the diffraction structure does not represent a diffractive image, are when the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties. Schmitz et al. and Menz et al. are related as security diffraction structures. Menz et al. teach (e.g. figure 3) a diffraction structure that has a dual channel design wherein different images are reconstructed for different directions of gazing. As such, Menz et al. teach an on-axis and off-axis design for viewing conditions of a diffraction structure. The on-axis/off-axis design of Menz et al. could be incorporated into the design of Schmitz et al. such that the diffraction structure reconstructs a diffractive image under on-axis transmitted/reflected light, and that the viewing conditions under which the diffraction structure does not represent a diffractive image can be under off-axis transmitted/reflected light. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Schmitz et al. and Menz et al. to create a security device that has multiple viewing conditions to enhance the security of the device by increasing the amount of security features which increases the difficulty in falsifying such a security device.

Consider claim 2, the modified Schmitz et al. reference discloses (e.g. figure 8) a security element characterized in that the area has a first reflection layer (14, reflecting layer), which supports the reconstruction of the diffractive image [col. 6, line 10 to col. 7, line 9].

Consider claim 9, Schmitz et al. disclose (e.g. figure 8) a security element, which has at least one area with a diffraction structure (13, lacquer layer) embossed during an

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embossing process with an embossing die, which under specific viewing conditions reconstructs a diffractive image (a diffractive image is reconstructed in transmitted light), wherein the area has subareas (10, gaps) being free of any diffraction structures (i.e. the gap areas do not include any diffraction structure), the subareas do not take part in the reconstruction of the diffractive image (the subareas do not take part in the reconstruction of the diffractive image since they do not include a diffraction structure) and represent a recognizable information (the subareas can represent characters or patterns), wherein the subareas do not form a diffractive contrast image (since the subareas do not include a diffractive structure they do not form a diffractive contrast image), so that the recognizable information represented by the subareas is recognizable under certain viewing conditions (the information represented by the subareas is only recognizable under transmitted light whereas the information represented by the diffractive image is recognizable under semitransparent light, i.e. the information can be selectively viewable depending on which spectrum of light is used) and wherein at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one of the subareas being free of any diffraction structure (the embossed layer can be formed into a separately or directly onto the surface of the carrier) [col. 6 line 10 to col. 7, line 9, col. 8, lines 7-44].

The preceding claim is a product-by-process claim and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production (i.e. being produced during an embossing process with an



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embossing die). If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process; see **In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)**.

However, Schmitz et al. do not explicitly disclose that the recognizable information represented by the subareas is recognizable under certain viewing conditions differing from the specific viewing conditions of the diffractive image. Schmitz et al. and Menz et al. are related as security diffraction structures. Menz et al. teach (e.g. figure 3) a diffraction structure that has a dual channel design wherein different images are reconstructed for different directions of gazing. As such, Menz et al. teach an on-axis and off-axis design for viewing conditions of a diffraction structure. The on-axis/off-axis design of Menz et al. could be incorporated into the design of Schmitz et al. such that the diffraction structure reconstructs a diffractive image under on-axis transmitted light, but that the viewing conditions under which the diffraction structure does not represent a diffractive image (i.e. when the information of the subarea is viewable) can be under off-axis transmitted light. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Schmitz et al. and Menz et al. to create a security device that has multiple viewing conditions to enhance the security of the device by increasing the amount of security features which increases the difficulty in falsifying such a security device.

Consider claim 12, the modified Schmitz et al. reference discloses (e.g. figure 8) a security element characterized in that the area is disposed on a transparent carrier (4, transparent carrier), so that the information represented by the subareas is recognizable in transmitted light [col. 6, lines 51-65 of Schmitz et al.].

Consider claim 39, Schmitz et al. disclose (e.g. figure 8) a method for producing a security element, comprising: embossing during an embossing process with an embossing die at least one area with a diffractive structure (13, lacquer layer), which under specific viewing conditions reconstructs a diffractive image (a diffractive image is reconstructed in transmitted light), producing subareas (10, gaps) of the area which do not take part in the reconstruction of the diffractive image (the subareas do not take part in the reconstruction of the diffractive image since they do not include a diffraction structure), represents a recognizable information (the subareas can represent characters or patterns), and are integrated in the area with the diffraction structure such that the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties under viewing conditions (under reflective viewing conditions the subarea and diffraction structure have similar reflecting properties due to the reflective layer 14), so that the recognizable information represented by the subareas is recognizable mainly only under the specific viewing conditions of the diffractive image (i.e. the information contained in the gap areas is viewable only under transmitted light), wherein at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one subarea being free of any diffraction structures (the embossed layer can be formed

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separately or directly onto the surface of the carrier) [col. 6, line 10 to col. 7, line 9, col. 8, lines 7-44].

However, Schmitz et al. do not explicitly disclose that the viewing conditions under which the diffraction structure does not represent a diffractive image, are when the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties. Schmitz et al. and Menz et al. are related as security diffraction structures. Menz et al. teach (e.g. figure 3) a diffraction structure that has a dual channel design wherein different images are reconstructed for different directions of gazing. As such, Menz et al. teach an on-axis and off-axis design for viewing conditions of a diffraction structure. The on-axis/off-axis design of Menz et al. could be incorporated into the design of Schmitz et al. such that the diffraction structure reconstructs a diffractive image under on-axis transmitted/reflected light, and that the viewing conditions under which the diffraction structure does not represent a diffractive image can be under off-axis transmitted/reflected light. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Schmitz et al. and Menz et al. to create a security device that has multiple viewing conditions to enhance the security of the device by increasing the amount of security features which increases the difficulty in falsifying such a security device.

Consider claim 48, Schmitz et al. disclose (e.g. figure 8) a method for producing a security element, comprising embossing during an embossing process with an embossing die at least one area with a diffraction structure (13, lacquer layer), which under specific viewing conditions reconstructs a diffractive image (a diffractive image is

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reconstructed in transmitted light), producing subareas (10, gaps) of the area which do not take part in the reconstruction of the diffractive image (the subareas do not take part in the reconstruction of the diffractive image since they do not include a diffraction structure), represents a recognizable information (the subareas can represent characters or patterns), and are integrated in the area with the diffraction structure such that the subareas form a not diffractive contrast image (since the subareas do not include a diffractive structure they do not form a diffractive contrast image), so that the recognizable information represented by the subareas is recognizable under viewing conditions (the information represented by the subareas is only recognizable under transmitted light whereas the information represented by the diffractive image is recognizable under semitransparent light, i.e. the information can be selectively viewable depending on which spectrum of light is used) and wherein at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one of the subareas being free of any diffraction structure (the embossed layer can be formed separately or directly onto the surface of the carrier) [col. 6 line 10 to col. 7, line 9, col. 8, lines 7-44].

However, Schmitz et al. do not explicitly disclose that the recognizable information represented by the subareas is recognizable under certain viewing conditions differing from the specific viewing conditions of the diffractive image. Schmitz et al. and Menz et al. are related as security diffraction structures. Menz et al. teach (e.g. figure 3) a diffraction structure that has a dual channel design wherein different images are reconstructed for different directions of gazing. As such, Menz et

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al. teach an on-axis and off-axis design for viewing conditions of a diffraction structure.

The on-axis/off-axis design of Menz et al. could be incorporated into the design of Schmitz et al. such that the diffraction structure reconstructs a diffractive image under on-axis transmitted light, but that the viewing conditions under which the diffraction structure does not represent a diffractive image (i.e. when the information of the subarea is viewable) can be under off-axis transmitted light. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Schmitz et al. and Menz et al. to create a security device that has multiple viewing conditions to enhance the security of the device by increasing the amount of security features which increases the difficulty in falsifying such a security device.

12. Claims 3-5, 10-11, 59, 62 and 63, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitz et al. (6,491,324) in view of Menz et al. (6,876,472) as applied to claims 1 and 9 above, and in further view of Phillips et al. (2004/0101676).

Consider claim 3, the modified Schmitz et al. reference discloses (e.g. figure 8) a security element characterized in that the at least one subarea does not have a diffraction structure [col. 6, line 10 to col. 7, line 9 of Schmitz et al.]. However, the modified Schmitz et al. reference does not explicitly disclose a first reflection layer is disposed in both the area of the diffraction structure and the area of the subareas. Schmitz et al., Menz et al. and Phillips et al. are related as security devices. Phillips et al. teach (e.g. figure 1) a reflection layer (22, reflector) that is disposed in both the area

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of the diffraction structure (i.e. the patterned portion of interference pattern 14) and the area of the subareas (i.e. the open spaces of the interference pattern 14). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of the modified Schmitz et al. reference, as taught by Phillips et al., in order to create security articles that have a color shifting pattern or an optically variable background to increase the security of the articles and enhance the visual effects.

Consider claim 4-5, and 10, the modified Schmitz et al. reference discloses (e.g. figure 8 of Schmitz et al.) a security element characterized in that the area has a transparent plastic layer (13, transparent lacquer layer), in which the diffraction structure is present in the form of a relief structure (embossed relief structure), that the first reflection layer (14, reflecting layer) is disposed on the surface of the plastic layer which is provided with the diffraction structure (13, includes a diffraction relief structure) and that the opposite surface of the plastic layer has a second reflection layer (i.e. the reflector 22 of Phillips et al.), wherein the subareas are formed by gaps (i.e. the spaces in the gap areas 10) in the first reflection layer (Note: Schmitz et al. teach a continuous diffractive structure and reflecting layer on the upper surface of the security element. Phillips et al. teach that the diffractive structure on the upper surface of the security element can be patterned with gaps in the continuity of the pattern. A person of ordinary skill in the art could have combined the teachings of Schmitz et al. and Phillips et al. to have an upper reflective layer with gaps such that the subareas are formed in the gaps) [col. 6, line 10 to col. 7, line 9 of Schmitz et al.]. Further Phillips et al. teach

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(e.g. figure 1) a security device wherein two reflection layers are made of the same material (the reflector layer 22 and the semi-opaque absorber layer, 18 are both made of reflective aluminum) [0063, 0068 of Phillips et al].

Consider claims 11 and 62, the modified Schmitz et al. reference discloses (e.g. figure 1 of Phillips et al.) a security element characterized in that the opposite surface of the plastic layer has a second reflection layer (22, reflector layer of Phillips et al.), wherein the first and second reflection layers are made of differently-colored materials (layer 18 can have a grayish color and layer 22 can be made of a variety of materials depending on the color effects desired) [0063, 0068 of Phillips et al.].

Consider claim 59 and 63, the modified Schmitz et al. reference discloses that the materials can both be made of aluminum [0063, 0068 of Phillips et al.].

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JADE R. CHWASZ whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 6:00 am - 3:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC  
/Jade R Chwasz/  
Examiner, Art Unit 2872

/Stephone B. Allen/  
Supervisory Patent Examiner  
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